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PATENT APPLICATION

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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): John APOSTOLOPOULOS et al.

Confirmation No.: 5149

Application No.: 09/899,622

Examiner: Tanim M. Hossain

Filing Date: July 3, 2001

Group Art Unit: 2145

Title: METHOD AND SYSTEM FOR DELIVERING STREAMING MEDIA TO FIXED CLIENTS OR MOBILE CLIENTS
WITH MULTIPLE DESCRIPTION BITSTREAMS

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TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on 06/11/2007

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month
\$120

☐ 2nd Month
\$450

☐ 3rd Month
\$1020

☐ 4th Month
\$1590

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

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Respectfully submitted,
John APOSTOLOPOULOS et al.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: APOSTOLOPOULOS, et al. Patent Application
Application No.: 09/899,622 Group Art Unit: 2145
Filed: July 3, 2001 Examiner: Hossain, T.
For: METHOD AND SYSTEM FOR DELIVERING STREAMING MEDIA TO FIXED
CLIENTS OR MOBILE CLIENTS WITH MULTIPLE DESCRIPTION
BITSTREAMS

APPEAL BRIEF

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I. Real Party in Interest

The assignee of the present invention is Hewlett-Packard Development Company,

L.P.

II. Related Appeals and Interferences

There are no related Appeals or Interferences.

III. Status of Claims

Claims 1, 2, 4-11 and 13-26 are rejected. Claims 3 and 12 have been cancelled. This Appeal involves Claims 1, 2, 4-11 and 13-26.

IV. Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

V. Summary of Claimed Subject Matter-

Independent Claims 1, 11 and 20 of the present application pertain to embodiments associated with methods and a device for streaming media data to a client.

As recited in Claim 1, a “method for streaming media data to a client” is described. This embodiment is depicted at least in Figure 4. As described in the instant disclosure, “[a]t step 402, the present embodiment encodes data to be streamed to a mobile client into two or more MD streams” (page 15, lines 20-21). Moreover, “the original media stream is coded using a multiple description algorithm into a number of separate descriptions or bitstreams. These descriptions have the property that (1) each bitstream is independently useful to the client” (page 15, lines 32-35). “As long as the receiver receives either of the bitstreams, it can decode a usable media stream” (page 15, lines 37-38). “At step 404, the present embodiment then distributes the MD streams to a number of different servers (e.g. servers 304a-304e of Figure 3) placed at intermediate nodes throughout a network” (page 16, lines 13-15). “[T]he two MD streams can be sent over two different paths in the wired network, and two different base stations may transmit the two MD streams over two different wireless channels to the receiving client (page 17, lines 1-3). “The MD streams of the present embodiment have the property that any number of streams can be decoded into a sequence in which the quality of the decoded sequence depends on the number of decoded MD streams. Specifically, any one MD stream can be decoded into baseline quality data; any two MD streams can be decoded into improved quality data; and so on until finally all the MD streams can be decoded into the highest quality data (page 17, lines 30-36).

As recited in Claim 11, a “method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client” is described. This embodiment is depicted at least in Figure 4. As described in the instant disclosure, “[a]t step 402, the present embodiment encodes data to be streamed to a mobile client into two or more MD streams” (page 15, lines 20-21). Moreover, “the original media stream is coded using a multiple description algorithm into a number of separate descriptions or bitstreams. These descriptions have the property that (1) each bitstream is independently useful to the client, and (2) each bitstream contains complementary information” (page 15, lines 32-36). “As long as the receiver receives either of the bitstreams, it can decode a usable media stream” (page 15, lines 37-38). “If the receiver receives both bitstreams it can decode a higher quality media stream than if it had received either bitstream alone” (page 15, line 38, through page 16, line 1). “The MD streams of the present embodiment have the property that any number of streams can be decoded into a sequence in which the quality of the decoded sequence depends on the number of decoded MD streams. Specifically, any one MD stream can be decoded into baseline quality data; any two MD streams can be decoded into improved quality data; and so on until finally all the MD streams can be decoded into the highest quality data (page 17, lines 30-36). “At step 404, the present embodiment then distributes the MD streams to a number of different servers (e.g. servers 304a-304e of Figure 3) placed at intermediate nodes throughout a network” (page 16, lines 13-15). “[T]he two MD streams can be sent over two different paths in the wired network, and two different base stations may transmit the two MD streams over two different wireless channels to the receiving client (page 17, lines 1-3).

As recited in Claim 20, a “system for streaming media data to a client” is described. This embodiment is depicted at least in Figures 3B and 4. As described in the instant disclosure, “[a]t step 402, the present embodiment encodes data to be streamed to a mobile client into two or more MD streams” (page 15, lines 20-21). Moreover, “the original media stream is coded using a multiple description algorithm into a number of separate descriptions or bitstreams. These descriptions have the property that (1) each bitstream is independently useful to the client” (page 15, lines 32-35). “As long as the receiver receives either of the bitstreams, it can decode a usable media stream” (page 15, lines 37-38). “At step 404, the present embodiment then distributes the MD streams to a number of different servers (e.g. servers 304a-304e of Figure 3) placed at intermediate nodes throughout a network” (page 16, lines 13-15). “A media sequence may be initially coded into balanced multiple 20 description bitstreams, where each bitstream requires approximately the same bit rate, and these multiple descriptions streams may be appropriately placed at different servers in the network. These MD bitstreams may be subsequently transcoded to different lower bit rates in order to appropriately match the bandwidths available to a client at any particular time” (page 19, lines 19-25). “[T]he two MD streams can be sent over two different paths in the wired network, and two different base stations may transmit the two MD streams over two different wireless channels to the receiving client (page 17, lines 1-3). “The MD streams of the present embodiment have the property that any number of streams can be decoded into a sequence in which the quality of the decoded sequence depends on the number of decoded MD streams. Specifically, any one MD stream can be decoded into baseline quality data; any two MD streams can be decoded into improved quality data; and so on until finally all the MD streams can be decoded into the highest quality data (page 17, lines 30-36).

VI. Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1, 2, 4-6, 9, 11, 13-15 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent 6,366,888 by Kroon et al., hereinafter referred to as “Kroon”, in view of “Multiple Description Coding Using Pairwise Correlating Transforms” by Wang et al., hereinafter referred to as “Wang”, further in view of United States Patent Application Publication 2002/0040479 by Ehrman et al., hereinafter referred to as “Ehrman”.
2. Claims 7, 8, 10, 16, 17 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of United States Patent 6,401,085 by Gershman et al., hereinafter referred to as “Gershman”.
3. Claims 20-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of United States Patent 6,308,222 by Krueger, hereinafter referred to as “Krueger”.
4. Claims 23-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of Krueger, yet still further in view of Gershman.

VII. Argument

1. Whether Claims 1, 2, 4-6, 9, 11, 13-15 and 18 are Unpatentable Under 35 U.S.C. § 103(a) by Kroon in view of Wang, further in view of Ehrman.

Claims 1, 2, 4-6, 9, 11, 13-15 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman. Appellants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 1, 2, 4-6, 9, 11, 13-15 and 18 are patentable over the combination of Kroon, Wang and Ehrman in view of the following rationale.

A. No Suggestion or Motivation to Combine Since the References Teach Away From Their Combination

“To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations” (MPEP 2142). Furthermore, “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that Kroon, Wang and Ehrman, alone or in combination, do not teach or suggest the claimed embodiments in the manner set forth in independent Claims 1 and 11. Independent Claim 1 recites that an embodiment of the present invention is directed to (emphasis added):

A method for streaming media data to a client, said method comprising:

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encoding an item of content comprising media data to be streamed to said client into a first multiple description bitstream and into a second multiple description bitstream, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another; and

distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths, wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

Independent Claim 11 includes similar recitations. Claim 2, 4-6 and 9 that depend from independent Claim 1 and Claims 13-15 and 18 that depend from independent Claim 1 also include these recitations.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

However, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Wang in the manner suggested, because Kroon teaches away from such a modification.

As understood by Appellants, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. In particular, Kroon recites that

[o]ne of the substrate representations represents core audio information contained in the musical piece, and is referred to as a “C-representation.” The other two substrate representations represent first and second enhancement audio information contained in the musical piece, and are referred to as “E₁ representation” and “E₂-representation,” respectively. Because of the design of the multi-rate coding in accordance with the invention, the audio signals recovered based on the C-representation alone, although viable, afford the minimum acceptable quality version of a musical piece; the audio signals recovered based on the C-representation in combination with either E₁-representation or E₂-representation afford a relatively high quality version of the musical piece; the audio signals recovered based on the C-representation in combination with both E₁-representation and E₂-representation afford the highest quality version of the musical piece. However, any audio signals recovered based only on the E₁-representation and/or E₂-representations are not viable. (emphasis added; col. 3, line 65, through col. 4, line 16)

Appellants understand Kroon to specifically recite that only the C-representation is independently decodable. Moreover, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Wang.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest the limitations of independent Claims 1 and 11 cited above. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Furthermore, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Ehrman in the manner suggested, because Kroon teaches away from such a modification.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon-Wang does not specifically teach the distribution of bitstreams to a plurality of servers placed at intermediate nodes throughout a network” (see Office Action mailed March 6, 2007; page 3, lines 13-14). Appellants respectfully note that Ehrman is relied on to overcome this shortcoming.

Appellants respectfully submit the Kroon teaches away from “distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple

description bitstreams are sent to said client via a plurality of transmission paths”, as claimed. In particular, by disclosing that only the C-representation is independently decodable, distributing the different representations at different nodes increases the chances of a client receiving an E-representation and not receiving the C-representation, thus resulting in a non-viable receipt of content. Therefore, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Ehrman.

B. Suggested Combination Would Render Cited Reference Unsatisfactory for its Intended Purpose.

“[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious” (emphasis added) (MPEP 2143.01; *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)). Moreover, “[i]f the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed amendment” (emphasis added) (MPEP 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that modifying Kroon as suggested in the Final Office Action would render Kroon unsatisfactory for its intended purpose.

As noted above, Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

Appellants respectfully submit that Kroon and Wang cannot be combined in the manner suggested, because to do so would render one or the other of the references inoperable for its intended purpose, and because it would be necessary to make modifications to those references in order to combine them in the manner suggested, but those modifications are not taught in the references.

As understood by Appellants and as recited above, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. Appellants understand Kroon to specifically recite that only the C-representation is independently decodable.

If Wang teaches that either the first or the second multiple description bitstreams is decodable independent of the other, this would be in direct contrast to the requirements of

Kroon, and so Kroon cannot be combined with Wang because to do so would render Kroon inoperable. If, on the other hand, Kroon and Wang are to be combined, then there is no teaching in either Kroon or Wang with regard to how these references can be combined so that Kroon would remain operable if E-representations are received without the C-representation.

Furthermore, in response to the “Response to Arguments” in the Office Action mailed March 6, 2007, Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)). Therefore, Appellants respectfully submit that the rejection does not establish a *prima facie* case of obviousness.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not satisfy the requirements of a *prima facie* case of obviousness.

In view of the combination of Kroon, Wang and Ehrman not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that independent Claims 1 and 11 overcome the rejection under 35 U.S.C. § 103(a), and that these claims are thus in a condition for allowance. Therefore, Appellants respectfully submit that the combination of Kroon, Wang and Ehrman also does not teach or suggest the additional

claimed features of the present invention as recited in Claims 2, 4-6 and 9 that depend from independent Claim 1 and Claims 13-15 and 18 that depend from independent Claim 11.

Appellants respectfully submit that Claims 2, 4-6, 9, 13-15 and 18 also overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

2. Whether Claims 7, 8, 10, 16, 17 and 19 are Unpatentable Under 35 U.S.C. § 103(a) by Kroon in view of Wang, further in view of Ehrman, yet further in view of Gershman.

Claims 7, 8, 10, 16, 17 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of Gershman. Appellants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 7, 8, 10, 16, 17 and 19 are patentable over the combination of Kroon, Wang, Ehrman and Gershman in view of the following rationale.

A. No Suggestion or Motivation to Combine Since the References Teach Away From Their Combination

“To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations” (MPEP 2142). Furthermore, “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that Kroon, Wang, Ehrman and Gershman, alone or in combination, do not teach or suggest the claimed embodiments in the manner set forth in independent Claims 1 and 11. Independent Claim 1 recites that an embodiment of the present invention is directed to (emphasis added):

A method for streaming media data to a client, said method comprising:

encoding an item of content comprising media data to be streamed to said client into a first multiple description bitstream and into a second multiple description bitstream, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another; and

distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths, wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

Independent Claim 11 includes similar recitations. Claim 7, 8 and 10 that depend from independent Claim 1 and Claims 16, 17 and 19 that depend from independent Claim 1 also include these recitations.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only

said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

However, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Wang in the manner suggested, because Kroon teaches away from such a modification.

As understood by Appellants, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. In particular, Kroon recites that

[o]ne of the subrate representations represents core audio information contained in the musical piece, and is referred to as a “C-representation.” The other two subrate representations represent first and second enhancement audio information contained in the musical piece, and are referred to as “E₁ representation” and “E₂-representation,” respectively. Because of the design of the multi-rate coding in accordance with the invention, the audio signals recovered based on the C-representation alone, although viable, afford the minimum acceptable quality version of a musical piece; the audio signals recovered based on the C-representation in combination with either E₁-representation or E₂-representation afford a relatively high quality version of the musical piece; the audio signals recovered based on the C-representation in combination with both E₁-representation and E₂-representation afford the highest quality version of the musical piece. However, any audio signals recovered based only on the E₁-representation and/or E₂-representations are not viable. (emphasis added; col. 3, line 65, through col. 4, line 16)

Appellants understand Kroon to specifically recite that only the C-representation is independently decodable. Moreover, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information

is not independently viable, Kroon teaches away from the suggested modification and combination with Wang.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest the limitations of independent Claims 1 and 11 cited above. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Moreover, Appellants respectfully submit that Gershman does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest the limitations of independent Claims 1 and 11 cited above. Therefore, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item

of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Furthermore, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Ehrman in the manner suggested, because Kroon teaches away from such a modification.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon-Wang does not specifically teach the distribution of bitstreams to a plurality of servers placed at intermediate nodes throughout a network” (see Office Action mailed March 6, 2007; page 3, lines 13-14). Appellants respectfully note that Ehrman is relied on to overcome this shortcoming.

Appellants respectfully submit the Kroon teaches away from “distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths”, as claimed. In particular, by disclosing that only the C-representation is independently decodable, distributing the different representations at different nodes increases the chances of a client receiving an E-representation and not receiving the C-representation, thus resulting in a non-viable receipt of content. Therefore, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Ehrman.

B. Suggested Combination Would Render Cited Reference Unsatisfactory for its Intended Purpose.

“[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious” (emphasis added) (MPEP 2143.01; *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)). Moreover, “[i]f the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed amendment” (emphasis added) (MPEP 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that modifying Kroon as suggested in the Final Office Action would render Kroon unsatisfactory for its intended purpose.

As noted above, Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office

Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

Appellants respectfully submit that Kroon and Wang cannot be combined in the manner suggested, because to do so would render one or the other of the references inoperable for its intended purpose, and because it would be necessary to make modifications to those references in order to combine them in the manner suggested, but those modifications are not taught in the references.

As understood by Appellants and as recited above, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. Appellants understand Kroon to specifically recite that only the C-representation is independently decodable.

If Wang teaches that either the first or the second multiple description bitstreams is decodable independent of the other, this would be in direct contrast to the requirements of Kroon, and so Kroon cannot be combined with Wang because to do so would render Kroon inoperable. If, on the other hand, Kroon and Wang are to be combined, then there is no teaching in either Kroon or Wang with regard to how these references can be combined so that Kroon would remain operable if E-representations are received without the C-representation.

Furthermore, in response to the “Response to Arguments” in the Office Action mailed March 6, 2007, Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)). Therefore, Appellants respectfully submit that the rejection does not establish a *prima facie* case of obviousness.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not satisfy the requirements of a *prima facie* case of obviousness.

Moreover, Appellants respectfully submit that Gershman does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang and Ehrman, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang and Ehrman, does not satisfy the requirements of a *prima facie* case of obviousness.

In view of the combination of Kroon, Wang, Ehrman and Gershman not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that independent Claims 1 and 11 overcome the rejection under 35 U.S.C. § 103(a), and that these

claims are thus in a condition for allowance. Therefore, Appellants respectfully submit that the combination of Kroon, Wang, Ehrman and Gershman also does not teach or suggest the additional claimed features of the present invention as recited in Claims 7, 8 and 10 that depend from independent Claim 1 and Claims 16, 17 and 19 that depend from independent Claim 11. Appellants respectfully submit that Claims 7, 8, 10, 16, 17 and 19 also overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

3. Whether Claims 20-22 are Unpatentable Under 35 U.S.C. § 103(a) by Kroon in view of Wang, further in view of Ehrman, yet further in view of Krueger.

Claims 20-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of Krueger. Appellants have reviewed the cited references and respectfully submit that the embodiments of the present invention as recited in Claims 20-22 are patentable over the combination of Kroon, Wang, Ehrman and Krueger in view of the following rationale.

A. No Suggestion or Motivation to Combine Since the References Teach Away From Their Combination

“To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations” (MPEP 2142). Furthermore, “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2)). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that Kroon, Wang, Ehrman and Krueger, alone or in combination, do not teach or suggest the claimed embodiments in the manner set forth in independent Claim 20. Independent Claim 20 recites that an embodiment of the present invention is directed to (emphasis added):

A system for streaming media data to a client, said system comprising:
a first server having first memory coupled thereto, said first memory having a first multiple description bitstream of encoded said media data stored thereon, said first server adapted to transmit said first multiple description bitstream to a client via a first path through said network; and
a second server having second memory coupled thereto, said second memory having a second multiple description bitstream of encoded said media data stored thereon, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another and wherein said first and said second multiple description bitstreams have approximately a same bit rate, wherein said second multiple description bitstream is transcoded by said second server to a reduced bit rate according to an amount of available bandwidth for a second path through said network, said second server adapted to transmit transcoded said second multiple description bitstream to said client via said second path, said first and second servers concurrently transmitting said first and said transcoded second multiple description bitstreams such that said first and said transcoded second multiple description bitstreams are provided to said client via a plurality of transmission paths;
wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

Claim 21 and 22 that depend from independent Claim 20 also include these recitations.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of

content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

However, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Wang in the manner suggested, because Kroon teaches away from such a modification.

As understood by Appellants, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. In particular, Kroon recites that

[o]ne of the subrate representations represents core audio information contained in the musical piece, and is referred to as a “C-representation.” The other two subrate representations represent first and second enhancement audio information contained in the musical piece, and are referred to as “E₁ representation” and “E₂-representation,” respectively. Because of the design of the multi-rate coding in accordance with the invention, the audio signals recovered based on the C-representation alone, although viable, afford the minimum acceptable quality version of a musical piece; the audio signals recovered based on the C-representation in combination with either E₁-representation or E₂-representation afford a relatively high quality version of the musical piece; the audio signals recovered based on the C-representation in combination with both E₁-representation and E₂-representation afford the highest quality version of the musical piece. However, any audio signals recovered based only on the E₁-representation and/or E₂-representations are not viable. (emphasis added; col. 3, line 65, through col. 4, line 16)

Appellants understand Kroon to specifically recite that only the C-representation is independently decodable. Moreover, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Wang.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest the limitations of independent Claim 20 cited above. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Moreover, Appellants respectfully submit that Krueger does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest the limitations of independent Claim 20 cited above. Therefore, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said

client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Furthermore, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Ehrman in the manner suggested, because Kroon teaches away from such a modification.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon-Wang does not specifically teach the distribution of bitstreams to a plurality of servers placed at intermediate nodes throughout a network” (see Office Action mailed March 6, 2007; page 3, lines 13-14). Appellants respectfully note that Ehrman is relied on to overcome this shortcoming.

Appellants respectfully submit the Kroon teaches away from “distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths”, as claimed. In particular, by disclosing that only the C-representation is independently decodable, distributing the different representations at different nodes increases the chances of a client receiving an E-representation and not receiving the C-representation, thus resulting in a non-viable receipt of content. Therefore, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information

is not independently viable, Kroon teaches away from the suggested modification and combination with Ehrman.

B. Suggested Combination Would Render Cited Reference Unsatisfactory for its Intended Purpose.

“[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious” (emphasis added) (MPEP 2143.01; *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)). Moreover, “[i]f the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed amendment” (emphasis added) (MPEP 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that modifying Kroon as suggested in the Final Office Action would render Kroon unsatisfactory for its intended purpose.

As noted above, Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality

should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

Appellants respectfully submit that Kroon and Wang cannot be combined in the manner suggested, because to do so would render one or the other of the references inoperable for its intended purpose, and because it would be necessary to make modifications to those references in order to combine them in the manner suggested, but those modifications are not taught in the references.

As understood by Appellants and as recited above, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. Appellants understand Kroon to specifically recite that only the C-representation is independently decodable.

If Wang teaches that either the first or the second multiple description bitstreams is decodable independent of the other, this would be in direct contrast to the requirements of Kroon, and so Kroon cannot be combined with Wang because to do so would render Kroon inoperable. If, on the other hand, Kroon and Wang are to be combined, then there is no teaching in either Kroon or Wang with regard to how these references can be combined so that Kroon would remain operable if E-representations are received without the C-representation.

Furthermore, in response to the “Response to Arguments” in the Office Action mailed March 6, 2007, Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)). Therefore, Appellants respectfully submit that the rejection does not establish a *prima facie* case of obviousness.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not satisfy the requirements of a *prima facie* case of obviousness.

Moreover, Appellants respectfully submit that Krueger does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not satisfy the requirements of a *prima facie* case of obviousness.

In view of the combination of Kroon, Wang, Ehrman and Krueger not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that independent Claim 20 overcomes the rejection under 35 U.S.C. § 103(a), and that this claims is thus in a condition for allowance. Therefore, Appellants respectfully submit that the

combination of Kroon, Wang, Ehrman and Krueger also does not teach or suggest the additional claimed features of the present invention as recited in Claims 21 and 22 that depend from independent Claim 20. Appellants respectfully submit that Claims 21 and 22 also overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

4. Whether Claims 23-26 Unpatentable Under 35 U.S.C. § 103(a) by Kroon in view of Wang, further in view of Ehrman, yet further in view of Krueger, yet still further in view of Gershman.

Claims 23-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kroon in view of Wang, further in view of Ehrman, yet further in view of Krueger, yet still further in view of Gershman. Appellants have reviewed the cited references and respectfully submit that the embodiment of the present invention as recited in Claims 23-26 are patentable over the combination of Kroon, Wang, Ehrman, Krueger and Gershman in view of the following rationale.

A. No Suggestion or Motivation to Combine Since the References Teach Away From Their Combination

“To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations” (MPEP 2142). Furthermore, “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2)). Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that Kroon, Wang, Ehrman and Krueger and Gershman, alone or in combination, do not teach or suggest the claimed embodiments in the manner set forth in independent Claim 20. Independent Claim 20 recites that an embodiment of the present invention is directed to (emphasis added):

A system for streaming media data to a client, said system comprising:
a first server having first memory coupled thereto, said first memory having a first multiple description bitstream of encoded said media data stored thereon, said first server adapted to transmit said first multiple description bitstream to a client via a first path through said network; and
a second server having second memory coupled thereto, said second memory having a second multiple description bitstream of encoded said media data stored thereon, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another and wherein said first and said second multiple description bitstreams have approximately a same bit rate, wherein said second multiple description bitstream is transcoded by said second server to a reduced bit rate according to an amount of available bandwidth for a second path through said network, said second server adapted to transmit transcoded said second multiple description bitstream to said client via said second path, said first and second servers concurrently transmitting said first and said transcoded second multiple description bitstreams such that said first and said transcoded second multiple description bitstreams are provided to said client via a plurality of transmission paths;
wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

Claim 23-26 that depend from independent Claim 20 also include these recitations.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at

said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

However, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Wang in the manner suggested, because Kroon teaches away from such a modification.

As understood by Appellants, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-representation. In particular, Kroon recites that

[o]ne of the substrate representations represents core audio information contained in the musical piece, and is referred to as a “C-representation.” The other two substrate representations represent first and second enhancement audio information contained in the musical piece, and are referred to as “E₁ representation” and “E₂-representation,” respectively. Because of the design of the multi-rate coding in accordance with the invention, the audio signals recovered based on the C-representation alone, although viable, afford the minimum acceptable quality version of a musical piece; the audio signals recovered based on the C-representation in combination with either E₁-representation or E₂-representation afford a relatively high quality version of the musical piece; the audio signals recovered based on the C-representation in combination with both E₁-representation and E₂-representation afford the highest quality version of the musical piece. However, any audio signals recovered based only on the E₁-representation and/or E₂-representations are not viable. (emphasis added; col. 3, line 65, through col. 4, line 16)

Appellants understand Kroon to specifically recite that only the C-representation is independently decodable. Moreover, Appellants respectfully submit that by disclosing that

only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Wang.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest the limitations of independent Claim 20 cited above. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Moreover, Appellants respectfully submit that Krueger does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest the limitations of independent Claim 20 cited above. Therefore, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a

second quality should only said second multiple description bitstream be received at said client” as claimed.

Moreover, Appellants respectfully submit that Gershman does not overcome the shortcomings of Kroon, Wang, Ehrman and Krueger. More specifically, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang, Ehrman and Krueger, does not show or suggest the limitations of independent Claim 20 cited above. Therefore, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang, Ehrman and Krueger, does not show or suggest “wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another” and “wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” as claimed.

Furthermore, for the reasons presented below, Appellants respectfully submit that there is no suggestion or motivation to combine Kroon and Ehrman in the manner suggested, because Kroon teaches away from such a modification.

Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon-Wang does not specifically teach the distribution of bitstreams to a plurality of servers placed at intermediate nodes throughout a network” (see Office Action mailed March 6, 2007; page 3, lines 13-14). Appellants respectfully note that Ehrman is relied on to overcome this shortcoming.

Appellants respectfully submit the Kroon teaches away from “distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths”, as claimed. In particular, by disclosing that only the C-representation is independently decodable, distributing the different representations at different nodes increases the chances of a client receiving an E-representation and not receiving the C-representation, thus resulting in a non-viable receipt of content. Therefore, Appellants respectfully submit that by disclosing that only the C-representation is independently decodable, and that the enhancement information is not independently viable, Kroon teaches away from the suggested modification and combination with Ehrman.

B. Suggested Combination Would Render Cited Reference Unsatisfactory for its Intended Purpose.

“[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious” (emphasis added) (MPEP 2143.01; *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)). Moreover, “[i]f the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed amendment” (emphasis added) (MPEP 2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). Appellants respectfully note that “[a] prior art reference must be

considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)).

Appellants respectfully submit that modifying Kroon as suggested in the Final Office Action would render Kroon unsatisfactory for its intended purpose.

As noted above, Appellants respectfully agree with the statement in the Final Office Action mailed March 6, 2007, that “Kroon does not specifically teach that the multiple description bitstreams are decodable independent of one another; and that client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client” (see Office Action mailed March 6, 2007; last two lines of page 2 through line 4 of page 3). Appellants respectfully note that Wang is relied on to overcome this shortcoming.

Appellants respectfully submit that Kroon and Wang cannot be combined in the manner suggested, because to do so would render one or the other of the references inoperable for its intended purpose, and because it would be necessary to make modifications to those references in order to combine them in the manner suggested, but those modifications are not taught in the references.

As understood by Appellants and as recited above, Kroon describes a C-representation that provides a first (minimum) quality and E-representations that contain enhancement information. Importantly, according to Kroon, the E-representations appear to require the C-

representation. Appellants understand Kroon to specifically recite that only the C-representation is independently decodable.

If Wang teaches that either the first or the second multiple description bitstreams is decodable independent of the other, this would be in direct contrast to the requirements of Kroon, and so Kroon cannot be combined with Wang because to do so would render Kroon inoperable. If, on the other hand, Kroon and Wang are to be combined, then there is no teaching in either Kroon or Wang with regard to how these references can be combined so that Kroon would remain operable if E-representations are received without the C-representation.

Furthermore, in response to the “Response to Arguments” in the Office Action mailed March 6, 2007, Appellants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI)). Therefore, Appellants respectfully submit that the rejection does not establish a *prima facie* case of obviousness.

Appellants respectfully submit that Ehrman does not overcome the shortcomings of Kroon and Wang. More specifically, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Ehrman, alone or in combination with Kroon and Wang, does not satisfy the requirements of a *prima facie* case of obviousness.

Moreover, Appellants respectfully submit that Krueger does not overcome the shortcomings of Kroon, Wang and Ehrman. More specifically, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Krueger, alone or in combination with Kroon, Wang and Ehrman, does not satisfy the requirements of a *prima facie* case of obviousness.

Furthermore, Appellants respectfully submit that Gershman does not overcome the shortcomings of Kroon, Wang, Ehrman and Krueger. More specifically, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang, Ehrman and Krueger, does not provide the suggestion or motivation to combine the teaching of Kroon and Wang. Therefore, Appellants respectfully submit that Gershman, alone or in combination with Kroon, Wang, Ehrman and Krueger, does not satisfy the requirements of a *prima facie* case of obviousness.

In view of the combination of Kroon, Wang, Ehrman, Krueger and Gershman not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully submit that independent Claim 20 overcomes the rejection under 35 U.S.C. § 103(a), and that this claims is thus in a condition for allowance. Therefore, Appellants respectfully submit that the combination of Kroon, Wang, Ehrman, Krueger and Gershman also does not teach or suggest the additional claimed features of the present invention as recited in Claims 23-26 that depend from independent Claim 20. Appellants respectfully submit that Claims 23-26 also overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

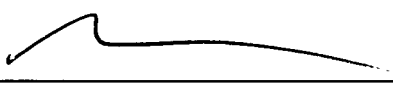
Conclusion

Appellants respectfully submit that pending Claims 1, 2, 4-6, 9, 11, 13-15 and 18 are patentable over the combination of Kroon, Wang and Ehrman. Appellants respectfully submit that pending Claims 7, 8, 10, 16, 17 and 19 are patentable over the combination of Kroon, Wang, Ehrman and Gershman. Appellants respectfully submit that pending Claims 20-22 are patentable over the combination of Kroon, Wang, Ehrman and Krueger. Appellants respectfully submit that pending Claims 23-26 are patentable over the combination of Kroon, Wang, Ehrman, Krueger and Gershman.

Therefore, Appellants respectfully submit that the rejections of the Claims are improper as the rejection of Claims 1, 2, 4-11 and 13-26 do not satisfy the requirements of a *prima facie* case of obviousness. Accordingly, Appellants respectfully submit that the rejection of Claims 1, 2, 4-11 and 13-26 under 35 U.S.C. §103(a) is improper and should be reversed. Appellants respectfully request that the rejection of Claims 1, 2, 4-11 and 13-26 be reversed. The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,
WAGNER BLECHER LLP

Dated: 08/13/2007



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VIII. Appendix - Clean Copy of Claims on Appeal

1. (Previously Presented) A method for streaming media data to a client, said method comprising:

encoding an item of content comprising media data to be streamed to said client into a first multiple description bitstream and into a second multiple description bitstream, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another; and

distributing concurrently said first and second multiple description bitstreams to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are sent to said client via a plurality of transmission paths, wherein said client decodes said item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

2. (Previously Presented) The method for streaming media data to a client as recited in Claim 1, wherein said encoding further comprises:

encoding said item of media data into a first and a second complementary multiple description bitstream wherein each of said first and second complementary multiple description bitstreams contains complementary information.

4. (Previously Presented) The method for streaming media data to a client as recited in Claim 1, wherein said encoding further comprises:

encoding said item of media data into a first and a second complementary multiple description bitstream wherein each of said first and second complementary multiple description bitstreams does not include encoded media data that is included in the other of said first and second complementary multiple description bitstreams.

5. (Previously Presented) The method for streaming media data to a client as recited in Claim 1, wherein said item of media data is selected from the group consisting of audio-based data, speech-based data, image-based data, graphic data, and web page-based data.

6. (Previously Presented) The method for streaming media data to a client as recited in Claim 1, wherein said distributing further comprises:

distributing said first multiple description bitstream to a first server and distributing said second multiple description bitstream to a second server.

7. (Original) The method for streaming media data to a client as recited in Claim 1, wherein said client is a mobile client.

8. (Previously Presented) The method for streaming media data to a client as recited in Claim 7, wherein said distributing further comprises:

distributing said first and second multiple description bitstreams to servers placed along a wired/wireless gateway.

9. (Original) The method for streaming media data to a client as recited in Claim 1, wherein said method does not require complete duplication of said media data in order to achieve path diversity.

10. (Previously Presented) The method for streaming media data to a client as recited in Claim 1, wherein said method is performed in a network system selected from the group consisting of: wired and wired networks; wired and wireless networks; wireless and wired networks; and wireless and wireless networks.

11. (Previously Presented) A method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client, said method comprising:

encoding an item comprising media data to be streamed to said client into a first complementary multiple description bitstream and into a second complementary multiple description bitstream, each of said first and second complementary multiple description bitstreams containing complementary information not included in the other of said first and second complementary multiple description bitstreams, and wherein said first multiple description bitstream is designed so that said item at a first quality is decoded by said client with only said first multiple description bitstream received at said client, wherein said second multiple description bitstream is designed so that said item at a second quality is decoded by said client with only said second multiple description bitstream received at said client, and wherein said item at a quality greater than said first or second quality is decoded by said client with both said first and said second multiple description bitstreams received at said client; and

distributing concurrently said first complementary multiple description bitstream and said second complementary multiple description bitstream to a plurality of servers placed at intermediate nodes throughout a network, such that said first and second multiple description bitstreams are dispatched to said client via a plurality of transmission paths.

13. (Previously Presented) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11, wherein each of said first and second complementary multiple description bitstreams does not include encoded media data that is included in the other of said first and second complementary multiple description bitstreams.

14. (Previously Presented) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11, wherein said media data is selected from the group consisting of audio-based data, speech-based data, image-based data, graphic data, and web page-based data.

15. (Previously Presented) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11, wherein said distributing further comprises:

distributing said first complementary multiple description bitstream to a first server and distributing said second complementary multiple description bitstream to a second server.

16. (Original) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11,

wherein said client is a mobile client.

17. (Previously Presented) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 16, wherein said distributing further comprises:

distributing said first complementary multiple description bitstream and said second complementary multiple description bitstream to servers placed along a wired/wireless gateway.

18. (Original) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11, wherein said method does not require complete duplication of said media data in order to achieve path diversity.

19. (Previously Presented) The method for achieving reliability and efficiency and for reducing single points of failure in the streaming of media data to a client as recited in Claim 11, wherein said method is performed in a network system selected from the group consisting of: wired and wired networks; wired and wireless networks; wireless and wired networks; and wireless and wireless networks.

20. (Previously Presented) A system for streaming media data to a client, said system comprising:

a first server having first memory coupled thereto, said first memory having a first multiple description bitstream of encoded said media data stored thereon, said first server

adapted to transmit said first multiple description bitstream to a client via a first path through said network; and

a second server having second memory coupled thereto, said second memory having a second multiple description bitstream of encoded said media data stored thereon, wherein said first multiple description bitstream and said second multiple description bitstream are decodable independent of one another and wherein said first and said second multiple description bitstreams have approximately a same bit rate, wherein said second multiple description bitstream is transcoded by said second server to a reduced bit rate according to an amount of available bandwidth for a second path through said network, said second server adapted to transmit transcoded said second multiple description bitstream to said client via said second path, said first and second servers concurrently transmitting said first and said transcoded second multiple description bitstreams such that said first and said transcoded second multiple description bitstreams are provided to said client via a plurality of transmission paths;

wherein said client decodes an item of content at a first quality should only said first multiple description bitstream be received at said client, wherein said client decodes said item of content at a second quality should only said second multiple description bitstream be received at said client, and wherein said client decodes said item of content at a quality greater than either of said first or second quality should both said first and said second multiple description bitstreams be received at said client.

21. (Original) The system for streaming media data to a client of Claim 20 further comprising:

a content server coupled to said first server and said second server, said content server

adapted to provide said first multiple description bitstream of encoded said media data to said memory coupled to said first server, said content server further adapted to provide said second multiple description bitstream of encoded said media data to said memory coupled to said second server.

22. (Previously Presented) The system for streaming media data to a client of Claim 20, wherein said media data is selected from the group consisting of audio-based data, speech-based data, image-based data, graphic data, and web page-based data.

23. (Original) The system for streaming media data to a client of Claim 20, wherein said client is a mobile client.

24. (Original) The system for streaming media data to a client of Claim 23 wherein said first server is placed along a wired/wireless gateway of a network.

25. (Original) The system for streaming media data to a client of Claim 20 wherein said second server is placed along a wired/wireless gateway of a network.

26. (Previously Presented) The system for streaming media data to a client of Claim 20 wherein first server and said second server reside within a network system selected from the group consisting of: wired and wired networks; wired and wireless networks; wireless and wired networks; and wireless and wireless networks.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.